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REMARKS:Status

Claims 23, 24, 26 to 36, 38 to 48 and 50 to 58 are pending. The independent claims, namely claims 23, 35 and 47, have been amended herein. Entry of this response, reconsideration and further examination are respectfully requested.

Rejections

Claims 23 to 24, 26, 28, 29 and 34 were rejected under 35 U.S.C. § 102(e) in view of U.S. Patent No. 6,446,220 (Menon). Claims 30 to 33 were rejected under 35 U.S.C. § 103(a) over Menon in view of U.S. Patent No. 5,720,029 (Kern). Claim 27 was rejected under § 103(a) over Menon. Claims 35, 36, 38, 39, 40, 41, 46 to 48, 50 to 53, and 58 were rejected under § 103(a) over Menon in view of U.S. Patent No. 5,781,716 (Hemphill). Claims 42 to 45 and 54 to 57 were rejected under § 103(a) over Menon in view of Hemphill and further in view of U.S. Patent No. 5,720,029 (Kern).

Withdrawal of Previous Arguments

Applicant hereby withdraws all previous arguments made in this case as moot. In view of the Office Action, these arguments have not persuaded the Examiner and are therefore immaterial to the disposition of the case.

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Response to Rejections

Claims 23, 24, and 26 to 34: Amended independent claim 23 is reproduced

below:

23. A file server including  
a common set of storage elements;  
at least a pair of nodes disposed in said file server, each of said  
nodes being connected to said common set of storage elements and  
including a processor and a memory so as to be capable of processing file  
server commands for said common set of storage elements;  
at least one inter-node connectivity element coupled to said nodes  
and disposed to communicate with at least another pair of nodes disposed  
in another file server; and  
a connection for coupling said file server commands to said nodes.

The art applied against claim 23, namely Menon, is not seen by Applicant to disclose or to suggest the foregoing features of the claim, at least with respect to a file server that includes "at least a pair of nodes ... connected to said common set of storage elements" in combination with "at least one inter-node connectivity element coupled to said nodes and disposed to communicate with at least another pair of nodes disposed in another file server."

In the rejection in paper #20, which was referenced in the outstanding Office Action, Menon's nodes 4a, 4b and 4c were equated with the claimed nodes and network 12 was equated with the connectivity element. However, the amended claim language requires that the connectivity element be "disposed to communicate with at least another pair of nodes disposed in another file server" (Emphasis added). Menon does not appear to teach this arrangement.

In more detail, if nodes 4a, 4b and 4c are considered to be nodes of a file server, then Menon's network 12 appears to provide communication (through adapters 8a, 8b and 8c)

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between nodes within that file server. Network 12 does not appear to Applicant to provide communication to other nodes in another file server.

Alternatively, if nodes 4a, 4b and 4c are considered to be file servers, then Menon's network 12 does not appear to be disposed to communicate between a pair of nodes in one file server and a pair of nodes disposed in another one of those file servers.

Neither of these interpretations of Menon appears to Applicant to be equivalent to the arrangement recited by amended claim 1, in which a file server includes both the claimed pair of nodes and the claimed connectivity element disposed to communicate with at least another pair of nodes disposed in another file server.

In the rejection of claim 35 in paper #20, Hemphill was cited for teaching an inter-node connectivity element. The cited portion of Hemphill discusses Figure 4 of that reference.

In Figure 4 of Hemphill, servers 500, 502 and 504 include primary and recovery controllers. Applicant surmises that these controllers are being equated with the claimed nodes. However, Applicant does not see any inter-node connectivity element in Figure 4 connected to the controllers of one server and disposed to communicate with the controllers of another server. Rather, the servers – not their respective individual controllers – appear to be connected together through serial links 506, 508 and 510. The controllers are “respectively connected to dual storage subsystems.” Hemphill, col. 11, lines 28 and 29. Thus, Hemphill also does not appear to Applicant to teach the arrangement recited by amended claim 1.

The remaining art applied in this case is not seen by Applicant to add anything that remedies the foregoing deficiencies of Menon and Hemphill.

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In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 23 and its dependent claims 24 and 26 to 34. Allowance of those claims also is respectfully requested.

Independent claims 35, 36, and 38 to 46: Claim 35 is reproduced below:

35. A method of operating a file server including  
operating at least a pair of nodes disposed in said file server, each  
of said nodes being connected to a common set of storage elements and  
including a processor and a memory so as to be capable of processing file  
server commands for said common set of storage elements;  
communicating with at least another pair of nodes in at least  
another file server through at least one inter-node connectivity element  
coupled to said nodes; and  
coupling said file server commands to said nodes.

The art applied against claim 35, namely Menon and Hemphill, is not seen by Applicant to disclose or to suggest the foregoing features of the claim, at least with respect to "operating at least a pair of nodes disposed in said file server, each of said nodes being connected to a common set of storage elements" in combination with "communicating with at least another pair of nodes in at least another file server through at least one inter-node connectivity element coupled to said nodes." In particular, the applied art is not seen to disclose or to suggest this particular arrangement of nodes in a server in combination with use of an inter-node connectivity element to communicate with at least another pair of nodes in at least another file server.

The remaining art applied in this case is not seen by Applicant to add anything that remedies the foregoing deficiencies of Menon and Hemphill.

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For at least this reason, reconsideration and withdrawal are respectfully requested of the § 103(a) rejection of claim 35 and its dependent claims 36 and 38 to 46, as is allowance of those claims.

Claims 47, 48, and 50 to 58: Independent claim 47 is reproduced below:

47. A memory storing information including instructions, the instructions executable by a processor to operate a file server, the instructions comprising:

operating at least a pair of nodes disposed in said file server, each of said nodes being connected to a common set of storage elements and including a processor and a memory so as to be capable of processing file server commands for said common set of storage elements;

communicating with at least another pair of nodes in at least another file server through at least one inter-node connectivity element coupled to said nodes; and

coupling said file server commands to said nodes.

The art applied against claim 47, namely Menon and Hemphill, is not seen by Applicant to disclose or to suggest the foregoing features of the claim, at least with respect to “operating at least a pair of nodes disposed in said file server, each of said nodes being connected to a common set of storage elements” in combination with “communicating with at least another pair of nodes in at least another file server through at least one inter-node connectivity element coupled to said nodes.” In particular, the applied art is not seen to disclose or to suggest this particular arrangement of nodes in a server in combination with use of an inter-node connectivity element to communicate with at least another pair of nodes in at least another file server.

The remaining art applied in this case is not seen by Applicant to add anything that remedies the foregoing deficiencies of Menon and Hemphill.

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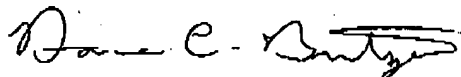
For at least this reason, reconsideration and withdrawal are respectfully requested of the § 103(a) rejection of claim 47 and its dependent claims 48 and 50 to 58, as is allowance of those claims.

Closing

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney can be reached at (614) 486-3585. All correspondence should continue to be directed to the address indicated below.

Respectfully submitted,



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